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ANATOMY OF MICRO D

When we last discussed software distributors (February 22, and still relevant) we naturally enough focused on revenues and the marketplace: All the companies are private. But growth takes cash. Now one of them, Micro D (also a hardware distributor) has just raised $27 million in an initial public offering that valued the firm at $107 million. Softsel, still private, is on its second round of financing; Microamerica and Micro Distributors, once independent, now both belong to to AGS Computer of Mountainside, NJ; High Technology (1982 revenues: $33 million) has just sold out to United Stationers for about $4.4 million in stock and Sigma Distributing ($15 million, plus $5 million in printers and photo stores sales) has just been acquired by photo peripherals supplier Vivitar.

Micro D's financials, the only ones generally available, make interesting reading:

Margins have been going down. Is this the result of industry price-cutting, of non-recurring expenditures/investments, or what? In general, gross margins have stayed steady, at about 17%; the margin pressure is hitting in the operating expenses line. The company points out the reasons: "Non-recurring" expenditures for the addition of a warehouse in Chicago; a doubling of staff in six months mostly for the launching of Service Software, a separate division selling to mass-merchandisers (as opposed to computer specialty stores); and the startup of a magazine, Micro Discovery, aimed at novices. We're always suspicious of so-called non-recurring expenditures: Most expenses tend to recur.

Nonetheless, the magazine, whether or not it's a success, will be a one-time expense (and if it succeeds it may even mean recurring profits). Warehouse openings and such will recur, but they'll be spread over a larger base of revenues. This is a business with definite economies of scale.

More interesting is the industry scenario that Micro D's prospectus reveals. Without actually saying so -- in fact, while downplaying it -- the company is more or less accepting a future of rampant price-cutting. While software-only distributor Softsel, for one notable example, is stressing service and has even announced a schedule of two-day classes for 1600 dealer personnel this summer, Micro D is preparing for a world where price and product availability outrank niceties. Its ads disparage "Hardsel" with its Hype

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100 list and its hardware-ignorant people who put diskettes into toasters. Micro D is saying in essence, Forget all that high-falutin' service; we're gonna be the low-cost producer! (Or distributor.) Micro D focuses on efficiency and mechanics, warehouses and computers (not that Softsel's any slouch in that area either). Rather than train dealers, Micro D will select product for them. Later, as computer literacy (whatever it is) spreads, micro distribution will become more and more mundane of a business, with more and more of the action shifting to mass-merchandisers. Dealers and their staffs will be more experienced, less needy of support. They'll want price, availability, selection -- not advice.

Thus Micro D is concentrating on doing well those "services" that can be mass-produced, starting with the physical task of distribution and extending to a mass-market magazine. Meanwhile, Softsel's approach is gradually leading it upmarket, to company stores, dealer classes, and the like.

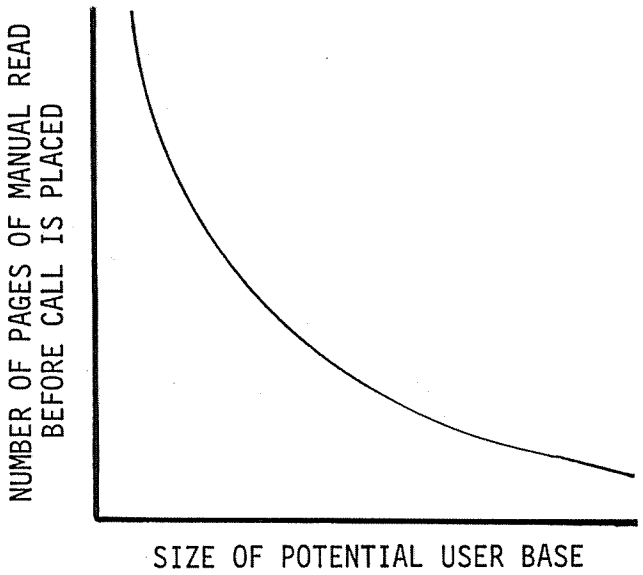
Either approach should work as long as it's carried out with conviction. Though the parallels aren't complete (DEC preceded Data General by several years and trained most of its founders), the Softsel/Micro D rivalry may remind old-timers of nice, large Digital Equipment and lean, mean hungry Data General (which shares backer Fred Adler with Micro D). Both DEC and DG flourished in the Seventies.

WHAT MAKES A '10' TELEPHONE SOFTWARE SUPPORT PACKAGE?
A '5' WITH AN AUTODIALER SO YOU CAN GET THROUGH...

HELP!! THE PROMISE OF UNBUNDLING END-USER SUPPORT

In the scheme of things, telephone support is like a girdle: It shouldn't have to exist. Every company's goal (just ask them) is to make products so friendly, so complete, so thoroughly documented and so perfected that there's never a need for questions (except maybe from some prospective customers, and informative advertising should take care of that). In reality, however, even Procter & Gamble, doyen of the non-service intensive home & personal products business, has an 800 number for consumer queries about greasy shampoo, esoteric stains, tender teeth. And most software companies offer no less, although there's a wide range in the enthusiasm they apply to this offering.

Studying software support gives one the sense of mining a geological fault -- scrabbling about in something that is just about to erupt. (We recently underwent a small earthquake in San Diego.) There is widespread dissatisfaction among both supplicants and suppliers over the quality of end-user support. The coming rationalization of the business, with users charged more directly for what they get, may well improve customers' lives as well as vendors' income statements.



All the companies we talked to recognize that a growing customer base means more support. And most have concluded that it's futile to count entirely on dealers to handle this function effectively. Unless you're VisiCorp or Lotus or MicroPro, yours is not likely to be on the short list of titles the dealer has time to learn. (Ironically, VisiCorp does one of the best jobs of end-user support, although its dealers complain of low margins and poor support.)

Furthermore, virtually everyone is thinking of charging -- one way or another -- for telephone support. VisiCorp has made a study that finds that where users were willing to pay $X for support last year, they'd consider $2.5X this year, and most likely $10X next year. (This is due not so much to shifts in individuals' attitudes, as to the entrance of more willing-to-pay types into the user base.) Most companies are settling on charges of about $100 per year, with newsletters, free updates and the like thrown in.

Isolating the value-added and charging for it makes sense in these days of piracy -- excuse me, software rental -- bundling, and overall price erosion. (See "The Threat of Bundling," RELease 1.0, June 1.) Publishers may not be able to control or maintain prices of the hard software once it leaves their hands, but they can still mete out the soft software -- support -- directly to the user.

But the issue is not just, Can you charge for support? It is also, Can you sell your packages without superior support? While support can be a positive in terms of income, poor or absent support is a negative factor, not just a neutral one. Those who don't compete here may not be able to compete anywhere.

How it works

Tariffed or not, telephone support efforts are changing both in character and magnitude. Growth in user bases is leading to a decline in the sophistication of the typical user. To illustrate, consider the chart on page 3 (concept courtesy of Paul Chaison, vice president of R&D at Information Unlimited Software). The potential size of the user base indicates the "mass-marketness" of the package, while the actual size gauges only the number of people who make calls but not their propensity to do so. Most companies haven't kept records long enough to be sure, but estimate that support calls have tripled or more over the past year. Factors relevant to the extent and character of a support operation include:

- **size of user base.** As noted. But packages sold through licensed OEMs may be supported by those OEMs.

- **growth rate of base.** New users tend to need more help.

- **potential size of user base.** As explained above. The good news is that it's generally fairly easy to answer most novice users' questions.

- **product category.** Of the major applications, accounting is the most time-intensive in terms of support. Of the "productivity" packages, the spreadsheets are tougher to use than most word-processors, but their users tend to be fairly sophisticated.

- **quality of documentation.** Generally fewer than 5% of calls concern actual bugs or defects in the software. From 30 to 60%, however, pose questions that could be answered by (MicroPro's) Seymour Rubinstein's admonition, "RYFM!" (Read your ... manual. Or rewrite your manual, perhaps?)

- **access.** If you have only two phone lines to your workshop in Hawaii, you're unlikely to have many support problems -- or customers, in the long run. On the other hand, if you publish your toll-free hotline number in all your documentation and ads, and back it up with enough lines to avoid busy signals from 8 am to 9 pm, you won't leave anyone unserved. In fact, the more accessible firms typically get two or three calls per 100 about someone else's products. Generally, up to half of all calls, particularly during busy periods or for complex questions, are handled with callbacks.

- **cost.** So far, vendor support is limited by access with the lone exceptions of Information Unlimited Software and Peachtree, which instituted for-pay service last summer.

Who should pay?

Of course, the consumer pays in the end, but how should the costs be distributed? Currently, most companies offer a "toll-free" 800 number at least to dealers, while those customers not smart or persistent enough to extract it from their dealers call in on regular lines. Some companies refer end-users' questions to dealers; others handle them all themselves. Most support operations make an effort to determine a caller's legitimacy (by asking for his registration number, for example) but generally a user's first question is answered regardless.

However, there's general agreement that telephone support can no longer be relegated to the category of "other" in financial statements and business plans.

Its costs are becoming significant and its impact is increasing. There are several schools of thought:

- Telephone support is part of the product, and should be free once the customer has paid for the product.

- Customers use telephone support to varying extents, and costs should reflect use of resources.

- Telephone support is a separate product, and should operate as a separate profit center.

The balance of opinion is shifting towards requiring some sort of payment, though Software Publishing, for one, is committed to "free" support. SPC, of course, is well-positioned with profitable, easy-to-support products listing for under $200.

Most other vendors of mass-market products -- spreadsheets, word processors, file managers, report generators -- will find their prices dropping dramatically in the next few years. Those new prices won't support support. Yet support is an increasingly necessary attribute of the corporate income statement -- and of the corporation. As Ben Cushman, who runs VisiCorp's service marketing operation (one of four divisions) and is launching an end-user support service, puts it, "When I first came to VisiCorp, I thought we'd always have the best products, and that was that. Now I realize there's constant leapfrogging; you can't always have the best product unless you come out with a new release every few months. In essence, we're doing this in order to have the best company."

Once the decision is made to unbundle, there's the decision of how to charge:

- **Subscription fees.** This is the simplest way (aside from including the charge with the product). Users pay once a year, and give their registration number and a password when calling. Problems are the talkative, inept, and lonely customers -- and of course those "customers" using their friends' numbers. One solution to this problem is to reward existing customers for bringing in their friends: A $20 rebate on his own fee for each new customer, say, would make an existing customer less likely to let his friends use his number for free. Another problem is that customers rarely subscribe until they need the service -- which means that the vendors must accept credit cards if they want much business. A free trial period can help make users aware of their needs.

  In general, the votes are in favor of subscription fees, typically with a newsletter and perhaps free updates or replacement disks bundled in. Let the customer pay you once, and think kindly of you the rest of the year.

- **Per-call or time charges.** This is the most actuarially correct way of charging, and avoids wasting resources on frivolous calls, but it generates extra costs for record-keeping and the use of credit cards. Simply using a non-800 phone number can have some of the same deterrent effect (although it favors nearby customers).

- **Phone-company billing.** One company is looking at a "900" number, whereby the phone company would assess extra charges and pass them on (minus commission) to the company called. With phone company participation likely in the new legal environment, this is a concept which could go far.

Tricks of the Trade

Feedback. Phone support, even if it's separated into a stand-alone profit center, can be a significant adjunct to the overall marketing effort. Using phone support's feedback on product and documentation ... well, call it opportunities for improvement, is an obvious benefit.

Mailing lists. Phone support customers care enough to call, and probably enough to buy some more of your products. Unless you lose their names, you can put them on a mailing list -- for a newsletter filled with promotions as well as advice, or just for plain direct mail solicitations. With discretion, you could even sell that mailing list to a noncompetitor.

Bulletin boards. Many companies, notably Digital Research and Ashton-Tate, are setting up electronic "bulletin boards," which can prove more satisfying and provide more detail to experienced users than can a telephone suport person reading from a manual or a technical note. (Novices, of course, are calling precisely because what they're reading makes no sense to them, and they want a live person to navigate them through.) Such bulletin boards save everyone time and money, and they can offer users a way to publish (edited) technical notes.

In-product support. The best way to reduce support costs, of course, is to sell self-supporting products. Lotus has helped make context-sensitive help screens famous, while Lisa and the Select word-processor, among others, include a tutorial with each system. MicroPro displays the appropriate procedure number from the manual for people needing more help than each of InfoStar's "help" screens provides (making life a little tougher for would-be copiers).

Callbacks. Callbacks aren't mentioned in polite society, but up to half of support calls are handled by a callback, especially in busy times. Perhaps a nicer word would be load-balancing.

Persistence of paper. We were surprised to hear that virtually all telephone support people take down names, numbers, complaints by hand; the data are key-punched in later. Everyone, of course, intends to automate fully by next year.

All those lonely people. One president swears that some of his customers call simply because they're lonely, and his people are trained to be nice. While such talkers can be a problem, they can at least be used as beta testers. Normally, beta testers are notoriously unhelpful because they just take the product and run; talkers offer precisely the kind of feedback needed while a product settles down.

Personnel. Some companies choose support people for their telephone manners; others for their technical competence. In general, if they know the answers to 20 different questions, they can handle 80% of the calls with ease. The other 20% require a little more exertion or the assistance of an expert. (Those 20 questions should of course be addressed clearly in the next release of the documentation -- and a new set will take their place.)

Most companies don't put their support people on the phone full-time for fear of burning them out. A lot of them spend their off-duty time answering letters, working on bug fixes, or otherwise working on QA, documentation and enhancement of the products. The hours spent on the phone qualify them uniquely!

Page 8: Vignettes of selected support efforts...

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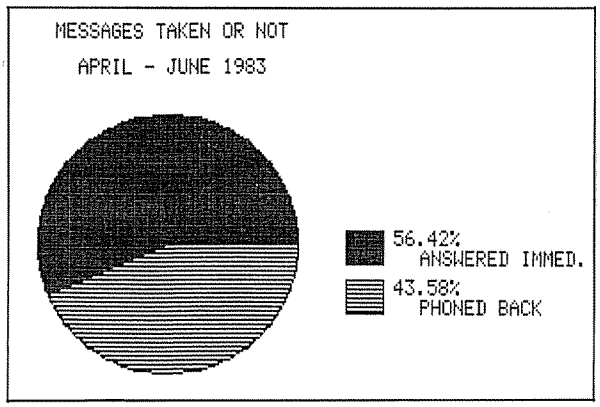
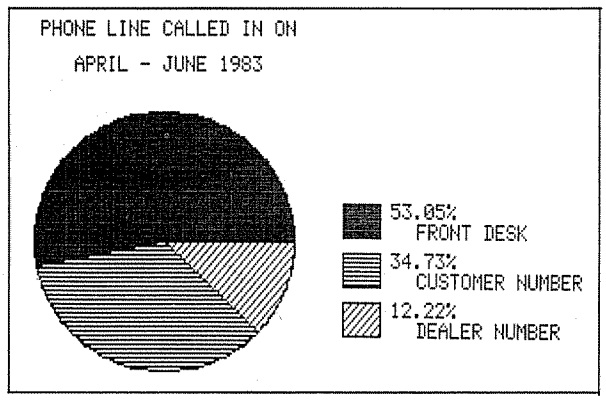
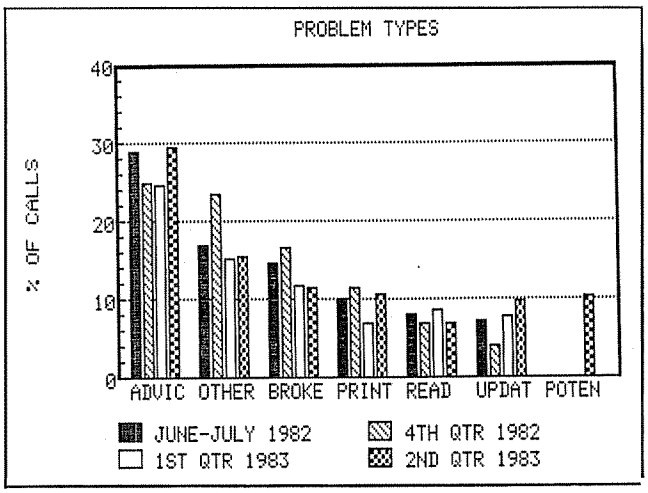
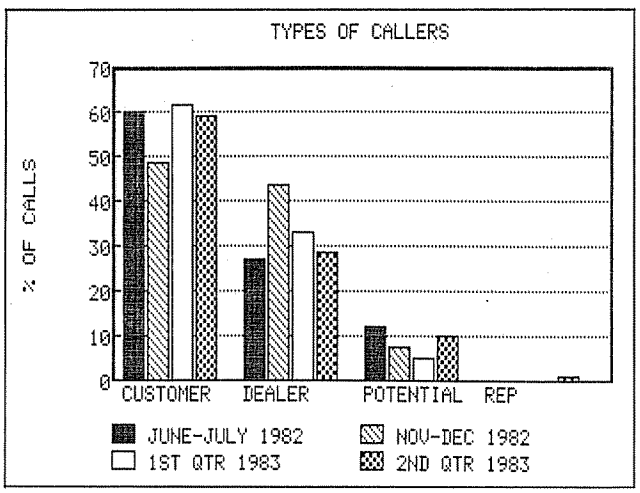
Software Publishing Corp. was kind enough to supply us with the charts on this page, which show some of the useful information a telephone support center can generate. The company generates these and others each quarter, using its own PFS:GRAPH in conjunction with PFS:FILE and PFS:REPORT. Although the data reflect SPC's particular blend of customers and products, they're reasonably typical.

"ADVIC" means "advice" about such things as how to set up a data base or organize a graph; "BROKE" refers to a broken or damaged disk needing replacement; "PRINT" means printer problems, common for every vendor; "READ" means someone who didn't; "UPDATE" means a request for an update; "POTEN" means an inquiry from a potential customer; and "OTHER," presumably, includes calls about WordStar as well as discoveries of actual bugs. Too many READS is a good indication of confusing documentation; if records are kept carefully enough, the data can indicate where to clarify. In other words, a properly used phone center can help to work itself out of existence.









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Player Profiles

Ashton-Tate. Ashton-Tate, the low-profile supplier of dBASE II and now Friday! (shipping next week), answers a heavy 350 calls a day, supporting the 120,000-or-so dBASE II user base. With the company's newly-announced Friday! selling at $295, versus dBASE II at $795, Ashton-Tate's support requirements will grow rapidly, even though the complexity of the questions is likely to decline. (dBASE II is very much a consultant's product, with dealers, systems houses and consultants routinely setting up systems for end-users. Friday!, on the other hand, is designed for setup and use directly by end-users.) A-T is looking at charging for this support, but hasn't made firm plans yet.

Currently the company answers all callers who can get through on its 10 non-800 lines; about 60% are dealers or consultants, the rest end-users. Each person who calls in gets a "bounce-back" card in the mail to rate the quality of the support he received -- and the employees feel the results in their paychecks. Thus, the quality of the suport is good, but insufficient since all callers can't get through. The company is planning to give a "20 Most Frequently Asked Questions & Answers" booklet to dealers to offload some of the questions.

Computer Factory. Computer Factory, a public, New York City-based retailer, is like 80% of the retailers we talk to in considering itself significantly above average in terms of consumer support. Like only 25% of them, it is right. Computer Factory mans a four-person team to answer about 100 end-user calls per day. Bruce Tucker, manager of technical services, estimates that his above-average staff supports about 30 to 40 programs in depth. It can also answer general questions or get relayed information from the vendors about the other 200-odd titles Computer Factory's eight stores stock. Tucker's firm plans to start a for-charge service for larger customers within a few months, but he applauds software vendors' intentions to do the same thing "and take some of the heat off."

Digital Research, Inc. Digital Research is in the forefront of the industry for having an on-line bulletin board -- and shutting it down. Despite its relatively sophisticated customer base (some million users of CP/M, MP/M, and a host of other operating systems and languages), the company discovered that most of its users just weren't prepared to deal with the intricacies of modems and communications protocols and the service didn't get the interest DRI had hoped for. Nor did it do much to offload the company's overstretched telephone support facilities.

Now the company is trying a modified approach: It's putting the bulletin board, now known as MicroLine, up on the Source. For one, the Source is easier to use than a raw computer-to-computer connection, says support center manager Marion Brown, and secondly, it's someone else's job to teach that user how to get online. MicroLine will be updated weekly and include such things as technical notes, trade show schedules, and product announcements.

The aim is to slow the growth in calls due to the company's ever-larger user base, its move into retail distribution, and its shift towards end-user utilities. Another tack is a $250 annual support agreement that includes unlimited toll-free phone support, a quarterly newsletter, and a subscription to the Source. The price pretty much dictates that the service is directed to serious programmers; it will be marketed through point-of-purchase brochures, trade show pamphlets, and of course in general communications with callers and dealers. Profitability is

secondary, but Brown figures it should happen eventually if only as a sign that her support operation is doing the job.

Great Plains. Great Plains Software, based in Fargo, North Dakota, has been selling its Hardisk™ accounting packages since early 1982, and now sees the PC XT rapidly expanding the size of its business (which formerly rested on the fortunes of the Apple ///). It supports stores with direct sales, bypassing distributors, but still doesn't feel it can rely exclusively on dealers for end-user support.

The company has an 800 number for dealers and a regular number for end-users; except for end-users' toll charges, support is free. However, end-users have discovered the 800 number, and some need lots of help. Indeed, Great Plains gets calls amounting to almost 10% of its user base **per day**, although that includes certain individuals who call frequently, and multiple callers from a single installation. Naturally enough, the company is re-evaluating its free-call policy.

IBM. A fair number of companies (for example, IUS, Microsoft, Peachtree) license their products for sale by IBM, which discourages them from providing telephone support to its customers -- but doesn't do so itself either. All questions are to be referred to dealers. This puts the publishers in an awkward position: "IBM's users call us in tears," says one. "We can't just tell them to go away." Such calls can amount to 10% of the total or more for vendors who do a large part of their business through IBM.

However, there are signs that IBM's possessive attitude towards its customers may be changing, and that it may make some efforts of its own: It has set up a tech-support bulletin board/electronic mail system for dealers which could easily be extended to end-users.

Information Unlimited Software. IUS was recently acquired by Computer Associates of Jericho, Long Island, a well-managed, fast-growing vendor of software for mainframes. IUS's Sharon Anderson, who runs the company's support services, is excited at the possibilities CA's deep pockets represent -- although in the long run, of course, support is supposed to pay its own way.

IUS is one of the first software vendors to charge for support. With no promotion beyond cards in its manuals, the experiment has garnered 550 customers (out of an estimated base of 40,000) since it started last summer. The company now handles roughly 100 calls per day, of which 30 to 40% are end-user support subscribers, 30% are dealers, 20% are nonsubscriber end-users, and the rest other. Prices are 20% of list, which amounts to $70 or $80 for productivity packages (EasyWriter, EasyFiler, EasyPlanner) and $120 for accounting packages. Per-call support is also available but not much used at $40 an hour, with a $10 minimum.

One delicate problem is how to inform non-subscribers of the need to pay without alienating them totally. Anderson takes the irate calls herself, and says there aren't too many. The service, moreover, includes a newsletter, free software updates (normally $25 apiece), free damaged disk replacement, and so forth. IUS's experience is that even with free phone time, most subscribers don't abuse their privilege. Those who do (the "fans") are recognized by the staff, and gently yes'd, no'd and uh-huh'd into silence.

The experiment over, the company is happy with the program and plans to expand it vigorously with advertising, lengthened hours (beyond the current 9 to 4 PST), and lowered prices on the productivity packages. (Things are less promising on the accounting side, where the company plans to drop its one-month-free policy.) The goal is to hit breakeven in the first quarter of 1984 and stay there. IUS feels the program's benefits to the rest of the company are image, sales success and customer satisfaction, rather than extra cash.

Juan & Alice. Typical users, Juan & Alice would rather ask questions of their boss than of some stranger on the telephone. However, Juan **is** the boss (he bought the software), and he doesn't know enough to help Alice. Their dealer knows VisiCalc, but the salesman who took the 1-2-3 course has left for a better job... Eventually, Alice gives up struggling through the manuals, and struggles through a series of receptionists, "right-away" callbacks that never come, and dealer referrals. Eventually, she gets through and discovers that the voices on the phone are nice, friendly -- and helpful. Now she has long forgotten where the manuals are, but she knows several 800 numbers by heart.

Lotus Development Corp. Lotus has an 800 number for its dealers, but it will answer anyone who calls with a legitimate registration number and name and address. At the moment the company is focusing its attention on a heavy and effective schedule of dealer training, and has endorsed end-user courses by various training companies. The company hasn't given a great deal of thought to end-user support, or whether to charge for it. (However, it is tying its Rolm system into a VAX in order to handle and monitor phone calls better.) Lotus is in the enviable position of having a product that dealers <u>want</u> to promote and support, and that customers can take classes to learn. In a case like this relying on dealer support is feasible.

MicroPro. MicroPro stopped beating its wife long ago and has recently rewritten most of its user manuals. The most significant of these, Release 3.3 of the WordStar manual (as well as of WordStar itself), started shipping last month.

MicroPro has been reluctant to take on the burden of support itself, but is now getting up its courage. The company's end-user phone effort currently consists of referrals to dealers, although end-users will shortly be encouraged to call technical support reps in the closest of MicroPro's six regional offices. The company gets about 225 end-user calls per day (plus another 125 from dealers), supporting an installed base of well over half a million users of WordStar alone. Over three months starting sometime this fall, the company will try out a limited no-charge end-user support service to get a sense of what is needed and then most likely take it national on a for-fee basis.

Rather than make a financial killing, MicroPro's aim is to improve its end-user support, especially with the advent of InfoStar and Starburst, which are designed as a sort of application-generator for nonprogramming managers who will use them to set up a system to be operated by lower-level employees. (Such a system might include inventory or receivables reports, purchase orders, billing letters, etc.) President Seymour Rubinstein wants to be prepared for what he considers the inevitable drop in software prices with a substantial source of supplementary income. Moreover, the company does a fair amount of OEM business, and support is one way of generating profitable aftermarket revenues out of frequently low-

margined front-end contracts. The company also intends to launch an extensive line of video-based training materials, which should offload some of the problem at the front end.

Microsoft. Microsoft has eschewed 800 numbers because "it's too easy to punch out 10 digits instead of looking in the manual." With the introduction of Multiplan a year ago, moreover, the company has found the character of its support operation, to say nothing of its size, changing. Calls are up to 300 a day now (including 100 on Multiplan) from about 200 in January, and the company estimates it's losing about another 50 calls when people hang up on "please-wait" recordings. What the company politely describes as calls due to "inexperience" now constitute more than 50% of the total, up from about 40% in January, while potential customer inquiries are about 25% of the total (an unusually high proportion, perhaps due to dealers' lack of familiarity with the product). Distributors call infrequently, dealers maybe 15% of the time, and the rest is end-users. (Many end-users have to be referred to outside OEMs, from whom they got their MS-DOS, M-BASIC or Multiplan.)

At the moment, the company is adding resources to serve the 20% of customers who can't get through, and the growth likely soon with the addition of Word and the other MultiTools. It is exploring how to charge for support but, says manager of retail product support Richard Farmer, "If we find ourselves turning into a profit center we'll adjust our rates downward."

Open Systems, Inc. Minneapolis-based Open Systems, the leading accounting system vendor, will shortly have its products on Apple's Lisa. Open Systems sells all but about 5% of its volume through stores and the rest through systems houses (although 25,000 of its base was sold and is supported by CADO); three years ago the proportion was about 50/50. With a base of some 15,000 end-users excluding CADO's, the company handles only 60 calls per day by limiting telephone support to dealers and systems houses. End-users are referred to their dealers, although questions are answered "just this once."

However, the whole character of the business is changing. Whereas a few years ago OSI's dealers themselves were technical-minded and did a good job of customer support, the increasingly retail orientation of its dealers is giving the company second thoughts about continuing to rely on them totally for end-user support. Although its plans are just gelling, OSI has decided that somehow or other it will have to provide high-quality end-user support itself. In the short run, the firm will likely charge just to recover costs; in the long run, it feels support is a legitimate profit center.

Software Arts. Software Arts, developer of VisiCalc and now developer and publisher of TK!Solver, has won wide praise for the quality of its documentation and dealer training for TK!Solver. This (plus a sophisticated user base that generally is already familiar with other software and printers) probably explains its relatively quiet telephone support lines -- fewer than 20 calls a day despite a fast-growing user base in the thousands.

The company operates five support lines (no 800 numbers) and staffs them with two dedicated staffers plus appropriate in-house experts who serve as needed. Although it would consider charging, Software Arts seems to be closer than most to the point of putting its support operation out of business by spending the money

at the front end. (Also noteworthy is the degree to which Software Arts has automated its operation; all support information is entered and kept on-line.)

Software Publishing Corporation. Software Publishing, considering its 180,000-user base, gets astonishingly few calls -- about 80 per day. (See page 7.) The company offers dealers an 800 number; end-users get a regular number. About 1% of the calls are end-users coming in on the 800 number. SPC's relatively low number of calls probably reflects the simplicity of its programs and the clarity of its manuals.

Software Support Center. Jennifer Rowe used to manage software support at MicroPro. Early this year, after 18 months at MicroPro, she decided she could do the job better from outside, and resigned to form Software Support Center in San Rafael -- not far from MicroPro. Last week she sold the company to Schuchardt Software Systems, a development company that was founded last February by another ex-MicroProer and that raised $1.6 million in a public offering in May. Rowe will stay on, glad to relinquish the administrative burdens and the financial strains of a startup, and to get on with the job of growing the business.

SSC, soon to be renamed SoftAid, consists of Rowe and six phone support people. It began as a specialist in MicroPro products. Next on the list, in addition to Schuchardt's own forthcoming Lisa-like Integrated Business Series, are Microsoft Word and MultiPlan, with SuperCalc and SuperWriter to follow. The service has several hundred paying customers, who are charged $99 per year for support for either MicroPro's "word" line (WordStar, MailMerge, SpellStar, StarIndex) or its "data" line (CalcStar, ReportStar, InfoStar) or $149 for both. Most take both. They also pay for the phone calls, which helps keep the subscription fee low and keeps customers from considering the service entirely "free" once they've paid.

Rowe says that most of her customers pay with corporate checks, although support is supplied only to individuals, most of whom become familiar to the telephone people. Corporate support is a question she knows she'll have to address, as will everyone. So far, the business has been built with word of mouth, plus several large ads in InfoWorld. Rowe senses a huge latent demand, but is nervous about the torrent of demand that a full-scale marketing effort might provoke.

SOLVation. Westboro, Mass.-based SOLVation, a systems integrator that has just come out with its own 8086-, MP/M-based hardware, bundles its hardware and software support together at 15% of the system price per annum. What distinguishes SOLVation, with a user base of 200, is its "buddy system." It uses a built-in modem that lets SOLVation's people at headquarters dial in and co-pilot a user's system, so that they can see what the user has done (wrong), and guide him through the right steps. three or four of SOLVation's daily 25 calls use the buddy system with enormous success, solving everything from the problems of a user who types an "L" instead of a "one," to the intricacies of restoring a file mangled by a power outage. Support is mandatory the first year (to prove to users how valuable it is); none of the 40 or so users who've had it for more than a year have cancelled.

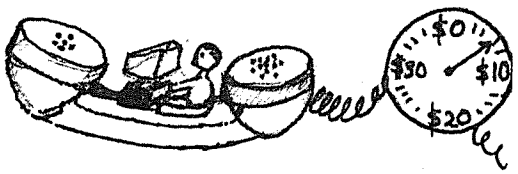
Sorcim. Sorcim, the publisher of SuperCalc and SuperWriter (among others) expects end-user software support to account for 15 to 20 percent of revenues within three

years. The company is entering the business next month with a support program aimed at large corporate end-users (with commissions to any dealers involved). The package, for a not yet settled fee, will include the usual unlimited software support and newsletter plus one 2½-day training session and one one-day "booster" session annually. The aim, says vice president of sales Bill Ferguson (another MicroPro veteran) is to turn one-shot purchases into customer relationships like those of mainframe software suppliers.

Sorcim currently handles 200 calls a day, although only about 15% of those are from end-users (the rest come mostly from dealers). Aside from OEM business, supported by the appropriate OEMs, Sorcim's user base probably numbers close to 200,000, and is growing fast.

VisiCorp. Of all the major software companies VisiCorp is taking support most seriously in viewing it as a fundamental standalone business. Last January the company created its Service Marketing arm, which encompasses for-fee end-user training (classes are currently being advertised in The San Jose Mercury), computer-aided instruction (VisiTutor), book publishing (VisiPress), and of course telephone support, VisiCare. Ben Cushman, who runs the group, is in the enviable position of getting all the should-be profitable businesses; marketing support (such as free training for dealers) remains with the marketing group.

VisiCorp, with a user base approaching one million, gets 400 calls per day, of which 60% are from end-users. (Unlike other IBM suppliers, it makes a practice of supporting even those end-users that "belong" to IBM. "As long as our naem is on it, we're responsible," says the company.) The rest of VisiCorp's calls are divided equally between dealers and prospective users. VisiCare will encompass this activity plus the usual array of a newsletter, disk replacements, and so forth, on a subscription basis. Like Sorcim's effort, VisiCare will be offered first to large-scale end users when it is announced this winter. Charges haven't been determined yet, and they will follow a 90-day free service period following purchase.



FREE DINNER FROM DOLLARS AND $ENSE

We had one of those wonderful pseudo-social get-acquainted dinners the other night where you actually like the guy, you like the PR guy, you even like the technical exhibit. This particular time the guy was John Reese, president of Tronix, the PR guy was Molly Garnett of Simon/PR, and the technical exhibit was Frank Mullin, a senior project manager in space systems at TRW who wrote the product in question in his spare time. The occasion was the launching of Dollars and $ense, a home finance package that will take on Continental Software's Home Accountant in a battle royal.

The dinner was more "meaningful" than most: We all agreed that a sincere desire to make money is not enough to sustain a startup; you need some sort of overriding obsession to channel your resources and keep you from lucrative but debilitating distractions. Reese even went so far as to admit that he's not in this to make money, but rather to have an impact on how people manage their lives. Since his early days at CitiCorp, he's been a zealot for home electronic banking. A Trojan horse, he joined Tronix, funded but not run by Softsel and up to now strictly a games-seller, as a way to get into the home market. That gives us confidence in the company's sense of direction; Reese's business experience running the home-banking project at CitiCorp reassures us that he knows profits are necessary to fund his dreams **and** that he knows how to work to a budget. Moreover, the overseership of Softsel, which has promised to keep its hands off as long as the numbers look okay, quells our cynicism. Softsel is likely to go public in the next year or so, and knows what investors like.

Oh, the product? We have to admit that anything to do with home finance gives us an unpleasant feeling, reminding us of a rapidly passing four-month tax extension, an unbalanced checkbook, unfiled expense reports. And we suspect we're not much different from anyone else. The 30,000 (we estimate) copies of Home Accountant already sold (it was Number 4 on Softsel's Hot List last week) may be more a token of good intentions than a base that is now in regular use in 30,000 homes. Nonetheless, **if** someone does sit down to it, Dollars and $ense (at $100 for the Apple // and $165 for the IBM PC) eases the painful chore somewhat. For one, it's written in SofTech's UCSD p-System, which for Tronix means portability and for the user means ease of use; a run-time operating system is included so that (unlike with an MS-DOS product) he doesn't have to spend a lot of time or mental energy installing it. A second point in its favor is that you can generate a for-practical-purposes unlimited number of automatic transactions each month (Home Accountant allows five per checking account) such as rent, paycheck, tuition, and even variable amounts like utilities, credit cards, etc. And third, whereas Home Accountant forces you to go through a menu for each transaction, D&$ lets you bypass such rigmarole. It can't do anything about the whole emotional environment of handling finances, but at least it reduces the drudgery. We'd buy it on availability in August; maybe we'll get around to using it soon....

RELease 0.5: HALF-BAKED NEWS

Network Party Three of Microcom's closest friends plus a host of invited press are gathering on July 19 to celebrate yet another network standard. Standards are one of the few things that can be made to happen just by wishing -- as long as enough active people get together and wish.

The standard in this case is the Microcom Networking Protocol for automatic file transfer (even over telephone lines), and the three friends are VisiCorp, GTE Telenet, and Apple. Sending best wishes and endorsements are Victor Technology, Automatic Data Processing and ComPro and Systar, two software houses. There are more to come.

MNP has won its widespread following by solving a number of communications software problems elegantly and simply -- and by providing a no-muss, no-fuss modem package based on its protocol that plugs in nicely into most systems. In essence, MNP handles the intricacies of getting different microcomputers to talk to each other. What is a machine to do when it's interrupted by a stream of 0s and 1s coming from somewhere outside? MNP gives them immediate meaning, so that the receiving machine will know to open its mailbox or prepare to receive a file.

MNP both connects these different systems and insulates them from each other, transcending their differences with automated functions that allow for the transfer of any type of file regardless of the sending and receiving hardware and software. It operates over virtually any physical medium, synchronous or asynchronous, at any speed, and provides automatic error correction, data transparency, flow control and a virtual file format. Moreover, it conforms to the Open Systems Interconnection model, as a good standard should. Although MNP is designed for point-to-point connections, there's no reason it can't do its magic over a local area network as well.

Microcom's other neat trick is its willingness to license its protocol for a one-time fee of $2500 that includes a day of customer training at Microcom. It makes its money, of course, from the sale of its modems and applications, which include the MNP and more.

VisiOn SessiOn VisiCorp has signed up a substantial number of hardware OEMs for its VisiOn, but it's been quieter on the software front with the exception of big guys like Applied Data Research and Xerox (for some Ethernet applications). Many people have wondered whether the project will make its schedule -- or its specs. But now VisiCorp is ready to show its treasure off to what amounts to the public, by way of a series of four day-long orientation sessions for independent software vendors starting next week.

Caveat dubitor!

Release 7? Or 8? Commodore's president, Bob Lane, has resigned after a brief stay. Chairman Jack Tramiel will reassume Lane's duties.

Calendar Happy birthday, Michael Schrage! (July 18)

EARTHQUAKE IN SAN DIEGO

An earthquake, 4.8 on the Richter scale, hit San Diego on June 28 and shook from slumber the industry executives gathered for the Semiconductor Forum. Lying agape in their beds in the Hotel del Coronado, some attendees checked that the old building was still intact and then rolled over, dismissing the event as a mere geological tremor. Others understood that what they had felt was a renewed rumble from the US economy shaking loose from its own slumbers, and that nothing in the semiconductor industry would be quite the same again.

The siting of the earthquake, centered (almost) on the Forum, signaled that this was no routine recovery. It was in fact the first economic recovery in our history to be led and driven by semiconductor-based products and innovations.

The chief beneficiaries of the rising demand will be firms with guts (or helpful governments). These companies are easily identifiable by their glistening new fab capacity built in the teeth of the recession, and they will rule the new wave of industry growth. The period for hyping and hogging out prototypes is over; this is put-up-or-go-home time.

In the second quarter, real non-farm GNP rose in the US at an annual rate of about 8 percent despite high real interest rates, low net exports for a recovery, low non-residential construction, relatively low increases in government purchases, and lower than average sales of consumer goods. The unexpected driving force of the revival has been a dramatic upsurge in sales of what economists call producers' durable equipment: That is the nub of the story.

According to estimates by Evans Economics of Washington, D.C., producers' durables were rising during the first two quarters and into the third at a projected rate of 12.4 percent, four times the average pace during the first three quarters of previous recoveries in the postwar era. During the 1977 recovery, for example, producers' durables represented 6.7 percent of GNP. In 1982, the figure was close to 13 percent of GNP and in 1983 it will rise to about 15 percent, leading a recovery for the first time in history.

What's significant for the semiconductor industry is the composition of this stunning rise. The spearhead of growth is computers and other electronic gear. Up some 14 percent in the first quarter alone and comprising more than 25 percent of all sales of producers' durables, computers were moving toward 30 percent of this rapidly growing category in preliminary data for the second quarter and signs from the third.

Purchases of non-electrical machinery by contrast continued to decline at an annual rate of 7 percent. Because computers have always represented a far smaller share of capital outlays, the official surveys of capital goods -- with their heavy-machinery bias -- have missed the bulk of this spending. But it has now loomed so large that even an economist can see it.

The True Underground Economy

We are now seeing the long-awaited emergence into economic statistics of America's true underground economy: the electronics industry. Industry leaders do not usually think of themselves as members of a netherworld. But if you don't believe that the statisticians, outside the Bureau of Internal Revenue, have almost completely missed the work and worth of the industry, consider a policy memo at

the Bureau of Economic Statistics: "We assume no price changes in computing. We assume all price changes are precisely offset by quality changes." In practice, the BEA uses a 1 percent deflator to measure computer production, as if computers were actually rising in price.

Since quality changes in computing have outrun prices by a factor of hundreds, this statement reveals that the numbers runners and crunchers in Washington have been almost completely blind to the most important single development in the US economy: the computer and semiconductor developments, in fact, that have made their own econometric models possible.

For the last decade, for example, official economic data indicate that office productivity has remained essentially stagnant, rising a total of 4 percent, while the productivity of manufacturing processes has risen some 90 percent. The office figures miss the impact of computers on small businesses, the fastest growing part of the US economy. Unbeknownst to the BES, however, the real productivity of electronics firms has risen exponentially, as the same workers who in the early 1970s produced a few hundred transistors on a chip now make far larger numbers of chips, of similar size, containing hundreds of thousands of transistors.

The software industry, moreover, has multiplied the uses of semiconductors by an only somewhat smaller measure. How can we gauge the real productivity of the inventor of Visicalc, for example, or his contribution to the productivity of Zilog and Intel?

Yet all this phenomenal change is omitted from the economic accounts, absent from GNP, and unmeasured by international comparisons that show European countries now exceeding the US in per capita income. The real yield of the semiconductor revolution has been passed on, mostly free of charge, to the nation's consumers, while the economists ruminated on autos, housing, and steel as the core industries of the economy and failed to predict the dimensions of this computer-led recovery.

This revival differs from all others, however, in that electronics are no longer concealed, even though their real economic worth is vastly underestimated. The crux of the recovery is the increasing computerization of not only the Fortune 500 but also America's 16 million small businesses. So far, penetration of this market remains less than 10 percent by most measures. But it is the power of semiconductors that now impels US economic growth and has finally made electronics the leading sector of the economy, the real core industry of the United States.

As the executives lay awake in their beds in the early morning darkness of the Coronado, we may presume that many of them dismissed their new eminence. They merely saw and rejoiced in a cyclical rise in book-to-bill and perhaps contemplated new purchases of capital equipment.

The message of this recovery is that the real core of US industrial might was gathered at the Hotel del Coronado last month and when the earth shook under their feet -- and through the US economy -- it was they who were shaking it.

The Ghost of Recessions Past

The executives now must confront the problems of success. Haunting the conference was the ghost of the 1970s, which also saw a fierce recession and ended with a semiconductor boom. On that occasion, the Japanese expanded their fabs though the slump and then exploited US capacity shortages to take 40 percent of the market in 16K DRAMs. Several of the speakers at the Forum thought that might be happening again.

The superficial evidence is compelling. Through 1982 and into 1983, the Japanese are increasing their capital spending by more than 20 percent a year, while US firms are raising their investment at a pace of less than 15 percent. During the first four months of this year the Japanese hiked their semiconductor shipments here by 70 percent over the same period last year, while several US firms largely gave up on their efforts to penetrate the Japanese market.

In DRAMs, for example, all the signs point toward serious shortages that will damage US systems houses, signify lost opportunities for chip producers, and offer new chances for Japanese breakthroughs into US markets. Prices are rising, the Japanese are struggling to fulfill domestic demand, most firms have their customers on allocation, and lead times are stretching out beyond 20 weeks. US book-to-bill, at close to 1.5, is the highest in the last decade.

Yet at the Forum, some voices still raised doubts about the industry's recovery. It was said that the numbers reflected the wave of microcomputer startups, many of which would not survive to collect their chips or pay for them (particularly if the law firms of some of the chip producers had their way). Everyone had a business plan predicting over 30 percent market share; no one seemed to be learning the lessons of Atari and TI. It was also pointed out that the big OEMs, though returning strongly to the market, had yet to increase their orders to the usual recovery pace.

These doubts are misconceived. Many startups will fail. Others will surprise themselves with marketing breakthroughs and surprise their suppliers with huge orders. Some of the established OEMs will lose their footing in a world of 32-bit microprocessors and Winchester hard disks. But IBM's recent request for pricing estimates on DRAM orders of up to 70 million units (RELease 1.0, April 14) suggests that at least some of the large OEMs will have a lot to say before the boom is over.

In this context, Intel's preference for niche markets in DRAMs evokes portentous memories of the mid-1970s when the company fatefully deferred completion of its Portland facility for two years and helped create the huge gap in the 16K DRAM market into which crashed the Japanese. Intel, of course, has many other, probably more profitable ways to use its fabs. So probably does Motorola, which at the Forum indicated it had reduced its target for 64K DRAM production in 1983 from 50 million down to 38 million units. TI too has indicated reluctance to increase its output of the product.

All this capacity shuffling is understandable in commercial terms but it casts a new light on the industry's protestations against Japanese DRAM imports. At present, it appears the Japanese will be needed to keeps US system houses in business through the boom. Only Mostek and Micron among the US firms seem to have made an all-out commitment to win the DRAM profits that are at last in reach.

A Coming Backend Crunch?

The other cloud overhanging the Forum was a possible crunch in the backend: Test and assembly. Reports from Dynetics in the Philippines, Amkor-Annam in Korea, Indy in California, as well as captive backends, all suggest that the industry is running out of packaging capacity. The prospect arose that even if the semiconductor firms could find enough silicon (and Monsanto recently issued a warning on that front), and even if ample numbers of innovative and ingenious 12-layer dice poured forth from the industry's fabs, the benefits of the boom might be lost for lack of wire and plastic. Scott Kulicke, the young CEO of Kulicke and Soffa, the leading US producer of assembly gear, warned that orders at his company were still not commensurate with the crisis he saw ahead and he predicted a rush of demand toward the end of the summer that would be difficult to fill in time.

Not all of the industry saw the problem in the same way. Intel's different strategy, focusing on parts of ever-increasing complexity and value-added, and shying clear of most commodity markets, leaves the company with ample backend. Intel's constraint arises in ever more challenging fabrication and final testing. But Intel too is facing problems in producing its popular new microprocessors -- the 186 and 188 as well as the 8086 and 8088 -- a crunch that also could offer unnecessary opportunities to the Japanese as the boom proceeds.

Nonetheless, the backend crisis is probably less a real threat than an additional portent of the condition of the industry. Assembly capacity can be brought on line more quickly than wafer fabrication gear. Two Philippines associated with Dynetics are opening a $50-million plant in a converted aircraft hangar in Victoria, British Columbia, late this fall. Indy plans 15,000 square feet of new capacity by the end of the year. Amkor-Annam is adding $11 million of new equipment to its already highly automated facilities.

The key fact is that as the economy takes off, with semiconductor-based capital equipment in the lead, the semiconductor companies themselves are already facing a number of capacity shortages. We ruefully guess that as in the 1970s, they will be filled one way or another by our recession-ready friends from abroad.

The INMOS Conundrum: Bullish in America

If one could build a semiconductor company on multilayered ironies, INMOS Corporation of Britain and Boulder would be leading the industry today with ferrite chips. It was launched under "Tony" Benn's National Enterprise Board as a showcase for British socialism, to create high-tech jobs in England and declare independence from the dominant US semiconductor firms.

But as National Semiconductor chairman Peter Sprague has pointed out, the company suffered from conceptual flaws: "INMOS was set up to do in Colorado the kind of design and engineering work that we do in Bristol and Edinburgh, in order to do in Wales the kind of assembly work we do in Malacca and Bandung." The company became a refuge for combative British semiconductor entrepreneurs unable to operate under the British Labour government and for US entrepreneurs unable to raise venture capital when the US capital gains tax rose to nearly 50 percent during the mid-1970s.

Today the firm has fallen into the reluctant hands of the conservative Thatcher government, which would return it to the private sector if anyone British would

buy it, but which is loath to allow foreigners to capture a firm that has absorbed some $200 million of British taxpayers' funds. Nonetheless, Merrill Lynch has just come aboard as US investment bank for the firm in possible preparation for a public offering -- perhaps employing some device that keeps British control but allows substantial US investment.

The company began with the intention of competing in commodity markets for 64K DRAMs but it failed to meet its schedules for this product after its designers ran off to found Micron. Micron has achieved with some $20 million what INMOS could not manage with some $200 million -- namely to earn a profit in DRAMs.

Continuing losses prompt many observers to term the company a "disaster" and to propose euthanasia. The dreadful balance sheet, however, conceals an interesting semiconductor company which shows considerable promise. Compared to other ventures in industrial policy, such as the truly disastrous $4-billion French Plan Calcul, INMOS under the Texan leadership of Richard Petritz now looks like an impressive success as a showcase not for British socialism but for Anglo-American entrepreneurship.

Its 16K static RAM, for example, a high-speed part useful for military applications and as a cache memory in mainframes, has captured some 70 percent of the market for fast static RAMs. It has announced a 64K E^2PROM with impressive features, including latches and on-chip timing. Though it uses the dubious MNOS interface trapping method rather than the more established floating-gate technology for storing bits, the chip should be one of the first available at the 64K level. INMOS' 64K DRAM, though slow to market, pioneered the nibble mode that promises to become industry standard at the 256K level.

Finally, to titillate potential investors with long time horizons and a taste for novelty, the company offers a new microcomputer designed as a fungible building block of a "fifth generation computer." Named the "Transputer" and offered with a new software language called Occam (after the simplifying razor of legend), the device contains fast static memory cells that allow it to be arrayed for parallel processing and other ambitious functions, such as raising large sums of money from investors.

Because of its helpful government, INMOS needed fewer guts than other companies to build impressive fab capacity during the recession. Nonetheless the firm is ready for the Roaring Eighties. Any potential purchasers in need of a Transputer firm, or a transputer, or even some splendid new fab capacity, should apply at 10 Downing Street -- if possible with a British accent.

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